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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/743,670 | 12/22/2003 | Matt Murray | 9314-58 | 7610 |
| 54414 7590 04/17/2007 MYERS BIGEL SIBLEY & SAJOVEC, P.A. P.O. BOX 37428 RALEIGH, NC 27627 | | | EXAMINER PAN, YUWEN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2618 | |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 04/17/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|-------------------------------|------------------------------|--|
| Office Action Summary | Application No. 10/743,670 | Applicant(s) MURRAY, MATT | |
| | Examiner Yuwen Pan | Art Unit 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-5, 18-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed 2/28/07 have been fully considered but they are not persuasive. The applicant argues that prior art of record doesn't teach that the speaker comprises a transducer and wherein the multi-mode audio processor circuit is configured to transmit sound from the transducer in a first mode of operation and to generate a composite audio signal from sound energy received by the microphone and the transducer in a second mode of operation. Before the establishment of examiner's response to arguments, the examiner would like to analyze the claim limitation based on applicant's specification. The examiner believes that the applicant tries to claim a mobile terminal has a speaker with a microphone for picking up noise and another microphone for picking up the voice energy from a user. During the first mode in which is a speaker operation mode, the microphone for picking up noise is turned off (see page 13 and lines 15-20). Thus the microphone for picking up noise is not used during first mode. During the second mode in which is mic. mode wherein both microphones are operational for optimizing the receiving of human voice. From examiner point of view, it is basic a process of noise cancellation for the mic. mode. So the Griffin reference clearly teaches a wireless device comprising a speaker (item 14a) with a noise microphone (item 48) and another microphone (14d) for human voice. Based on the structure, it is clear that the speaker is utilized for alerting user for incoming call or voice communication from another end as the first mode. The association of microphone and noise microphone are clearly taught in paragraph 33 in which to provide a higher quality speech signal from the user end. In addition, since the applicant does not claim "without two microphones" (see applicant's remark, page 8), the argument regarding to this feature is moot. Therefore, based on foregoing reasoning, the previous rejection stands.

DETAILED ACTION

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 6-9, 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Griffin et al (US 20040063456A1).

Per claim 6, Griffin discloses a mobile terminal (see figure 4 and 16) comprising: a housing (see figure 4); a microphone positioned in the housing (see figure 4 and item 14d); a speaker positioned in the housing remote from the microphone (see figure 4 and item 14a); and a multi-mode audio processor circuit (see figure 5 and item 196) configured to apply noise cancellation (item 191) to microphone (190) and background noise microphone (48) inputs thereof, from figure 4 it shows that the speaker(14a) and the background noise microphone (48) is coupled in a very closed vicinity (see paragraph 33 and 56), a speaker (item 14a) with a noise microphone (item 48) and another microphone (14d) for human voice. Based on the structure, it is clear that the speaker with the transducer (the first microphone) is utilized for alerting user while there is an incoming call or voice communication from another end as the first mode (speaker mode). For the second mode, it would be the noise cancellation part in which is the association of microphone (the second microphone for human voice) and noise microphone (the transducer or the first microphone) are clearly taught in paragraph 33.

Same arguments apply, *mutatis mutandis*, to claim 12 and 13.

Per claim 8, Griffin further teaches that the processor (196) is configured to generate an audio signal from sound energy received by the microphone (14a) in the first mode of operation (see paragraph 33).

Same arguments apply, *mutatis mutandis*, to claim 14.

Per claim 9, Griffin further teaches that the processor in associated with the noise cancellation unit is able to subtract the detected background noise signals from the corrupted speech received by the microphone (see paragraph 33).

Same arguments apply, *mutatis mutandis*, to claim 15.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin et al (US 20040063456A1) in view of Warnaka et al (U.S. Patent #5,046,103).

Per claim 10, Griffin doesn't teach an audio amplifier and a preamplifier are enclosed for either modes. Warnaka teaches a noise reducing system for voice microphone comprising an audio amplifier (figure 2 and item 42) in which amplifier audio signal before reaching the speaker (38). It would have been obvious to one ordinary skill in the art at the time the invention

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was made to having an audio amplifier for amplifying audio signal to be carried out in speaker. Although neither Griffin nor Warnaka teaches a preamplifier teaches a preamplifier for the microphone, it is inherent that electronic microphone contains a preamplifier, typically a field effect transistor (FET), and voice is converted to electrical signal by capacitance.

Same arguments apply, *mutatis mutandis*, to claim 16.

6. Claim 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin et al (US 20040063456A1) and Warnaka et al (U.S. Patent #5,046,103) as applied to claim 10 above, and further in view of Suzuki et al (US005251262A).

Combination of Warnka and Griffin doesn't expressly teach of switching modes between speaker mode and noise cancellation mode. Suzuki teaches switching between speaker mode and noise cancellation mode (see abstract). It would have been obvious to one ordinary skill in the art at the time the invention was made to combine the teaching of Suzuki with the combination of Warnka and Griffin such that the system has enough time for calculation processing and proper adaptive control processing can be executed (see column 4 and lines 1-14).

Same arguments apply, *mutatis mutandis*, to claim 17.

Conclusion

7. This application contains claims 1-5 and 18-23 drawn to an invention nonelected without traverse in Paper filed on 09/13/2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuwen Pan whose telephone number is 571-272-7855. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anderson D. Matthew can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Xuwen Pan
April 12, 2007


MATTHEW ANDERSON
SUPERVISORY PATENT EXAMINER